

Abstract

Systems and methods provide for automated, cyclic delivery and evacuation of a treatment or irrigation solution from a tooth root pulp chamber and pulp canals. A manifold has a base member sized and configured to rest on a crown of an instrumented tooth and a top member sized and configured to couple with the base member to define an inlet chamber and an outlet chamber. The distal end of a needle is passed through an opening between the inlet and outlet chambers and extended distally beyond the base member into a pulp canal. The proximal end of the needle includes an opening in fluid communication with the inlet chamber. A solution is transferred from a fluid supply source to the inlet chamber and through the needle into the pulp chamber and pulp canals. The spent solution is evacuated from the pulp chamber and pulp canals through the outlet chamber.